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Before the
POSTAL REGULATORY COMMISSION
WASHINGTON, D.C. 20268-0001

Before Commissioners:	Robert G. Taub, Chairman; Mark Acton, Vice Chairman; Tony Hammond; and Nanci E. Langley
Periodic Reporting, Proposal Four	Docket No. RM2017-8

PUBLIC REPRESENTATIVE COMMENTS ON ANALYTICAL PRINCIPLES USED IN PERIODIC REPORTING, PROPOSAL FOUR

(August 9, 2017)

Submitted by
Larry Fenster (Public Representative)

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I. INTRODUCTION

On June 30, 2017, the Postal Service filed a petition pursuant to 39 CFR 3050.11 requesting the Commission to initiate an informal rulemaking proceeding to consider a proposed method of updating city carrier letter route cost pools.[1] The Petition identifies the proposed analytical method changes filed in this docket as Proposal Four. The Public Representative (PR) respectfully offers his evaluation of Proposal Four.

II. SUMMARY OF ARGUMENT

The Public Representative concludes that the proposed change in method in Proposal 4 is less than ideal on a going-forward basis, but may be necessary if the Postal Service is unable to reconstruct Form 3999 delivery data for the vast majority of DOIS routes for each fiscal year, beginning in 2014. The Commission should weigh the feasibility of this modification against its potential benefits. The Public Representative stresses the Commission should make clear that the Postal Service shall perform at least one route inspection for every DOIS city carrier route each year and construct a Form 3999 database to contain this data. This will allow city carrier cost pool proportions to be updated for subsequent Annual Compliance Reviews.

III. BACKGROUND

A new method for developing city carrier letter route, cost pools was accepted by the Commission in Docket No. RM2015-7.[2] This method used data from Form 3999 for over two-and-a-half calendar years, from 2011 through mid-2013, and three fiscal

[1] *Petition of the United States Postal Service for the Initiation of a Proceeding to Consider Proposed Changes in Analytical Principles (Proposal Four), June 30, 2017 (Petition*). The Public Representative examined these data and found that 89 percent of sample routes were contained in fiscal years 2012 and 2013, and approximately 82 percent of sample routes were contained in calendar years 2012 and 2013. *See, Attachment 1.*

[2] *Petition at 2*; *see, Docket No. RM2015-7, Order No. 2792, Order Approving Analytical Principles Used in Periodic Reporting (Proposal Thirteen),* October 29, 2015.

years, from 2011 to 2013 to form street time relevant cost pools, such as the time to deliver letters, flats, sequenced mail (Regular Delivery Time); pickup collection box mail (General and Express Mail Collection Time); travel to and from the delivery unit (Travel To/From Time); travel between route segments (Network Travel Time); and perform relays (Relay Time).[3]

The other relevant cost pools: deviation parcel accountable (DPA) Time; and in-receptacle parcel (IRP) time, were developed from a special carrier study (Package Study). While Form 3999 data contained DPA Time, it did not contain IRP Time. Consequently, it was necessary to collect time data on the delivery of deviation and in-receptacle parcels. This special study was conducted in 300 ZIP Codes over 12 delivery days from April 29, 2013 through May 11, 2013. Carriers used hand-held barcode scanners, known as mobile delivery devices (MDDs), to mark the beginning and end of the delivery of deviation and in-receptacle parcels. These times were then aggregated to form cost or time pool for these activities.[4] *CCSTS Report, at 32.*

Cost pools developed from Form 3999 were based on their share of direct and indirect (gross) street time. Cost pools developed in the Package Study for IRP Time and DPA Time, were also based on direct and indirect street time. Because the econometric equation which estimated the elasticities of regular, deviation parcel, and in-receptacle parcel delivery needed to be based upon direct street time, it was necessary to remove indirect time from the IRP and DPA pools by adjusting them upward by the ratio of gross to direct street time. Because Form 3999 regular delivery time included parcel and in-receptacle time, it was necessary to subtract these parcel cost pools from regular street time. Because the parcel cost pools had been modified upward to measure their share of direct street time, subtracting their share from the regular delivery cost pool based upon total street time, yielded the cost pool of direct regular delivery. *Id., 17*.

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[3] *USPS-RM2015-7/1, Report on the City Carrier Street Time Study ("CCSTS Report"), at 5-6.* The vast majority of sample routes were in calendar and fiscal years 2012 and 2013.

[4] Carriers performed a special study of the volume of Collection Mail, which is mail picked up at a business or residential customer's premise. Because collection mail is included in the Regular Delivery Time Pool, delivery time associated with this activity does not need to be updated.

IV. Proposed Methodological Change

A. Theoretical Requirements

The Package Studies' cost pools reflected the conditions which existed fiscal years 2012 and 2013. Since the elasticities developed in the Package Study are applied to annual cost pools corresponding to the fiscal year of each Annual Compliance Review (ACR), it is necessary to update the 2012-2013 fiscal years, to each subsequent fiscal year.

Because Form 3999 data is available on an ongoing basis, it is theoretically possible to develop an annual adjustment factor without sampling or special studies, which in turn makes it theoretically possible to develop an annual estimate of directly attributable cost pool shares for Regular, IRP, and DPA; and street time cost pools for General Collection, Priority Mail Express Collection, Travel To/From, Relay, and Network Travel activities. One may use the Package Study method to develop reliable, annually updated, street time (direct and indirect) cost pools for Regular Delivery, General Collection, Priority Mail Express Collection, Travel To/From, Relay, and Network Travel activities, the factor which adjusts street time DPA and IRP to directly attributable DPA and IRP Time, and Directly Attributable Regular Delivery Time if the following conditions are met:

- a census of Form 3999 data of every available city carrier regular deliver route included in the delivery operation information system (DOIS) is available every fiscal year;[5]
- a new adjustment factor is estimated annually;
- the annual growth rate in Form 3999 DPA Time is estimated;
- the shares of IRPT and DPAT as a share of their summed time are kept equal to the shares established in RM2015-7, namely 45 percent and 55 percent, respectively.

[5] *See, Response of the United States Postal Service to Chairman's Information Request No. 1 (Response to CHIR1), question 5a*.

B. Proposal Four Is Not Flawed But Should Not Be Rejected Without Reason

In the opinion of the Public Representative, Proposal Four roughly meets the theoretical requirements listed above.[6] Yet, the PR maintains Proposal Four does not clearly develop a method to annually update the relevant delivery cost pools using Form 3999 data. Rather, it updates the Package Study cost pools using the percentage change in cost pool shares between fiscal year 2014 and 2016.[7] Unfortunately, the Postal Service incorrectly designates the cost pools from the Package Study as being from fiscal year 2014, whereas earlier discussion showed the Package study mostly used Form 3999 data from fiscal years 2012 and 2013. It also presents the fiscal year of its analysis which is used to calculate the percentage change in cost pools as 2016, even though analysis performed by the Public Representative shows nearly 8 percent of the route data were collected in fiscal year 2015.[8] Using multiple fiscal years is not the best method to annually update cost pool shares. The problem is that the growth rate in DPA Time is spread, or averaged, over several years. Growth rates averaged over several years smooths annual variations across fiscal years 2014, 2015, and 2016. It is also not clear whether the Postal Service intends to include Form 3999 data from fiscal year 2017.[9]

Furthermore, it may not be necessary to use data from multiple fiscal years. If a census of Form 3999 data is not automatically collected each year, the Postal Service should be able to (re)construct a census for each fiscal year if it has saved the proper vintages of route inspection data. If this is not possible, the Commission may have no

[6] The Public Representative considers this proceeding as one in which an ongoing method to annually update city carrier cost pool shares using current fiscal year Form 3999 data so that the cost pools used in Segments 6&7 in the Annual Compliance Reports remain current.

[7] *See, USPS-RM2017-8/1 - Public Material Relating to Proposal Four, USPS.RM2017.8.1.Prop.Four.Cost.Pools.Form3999.sas, and USPS.RM2017.8.1.Prop.Four.Adj.IR.Dev.Parcel.Prop.FY16.*

[8] It may be too late to collect enough Form 3999 data for fiscal year 2017. *See also, Response to CHIR1, question 3a.* The PR also ran a SAS program, on the publically filed data contained in USPS.RM2017.8.1.Prop.Four.Form3999.Data.xlsx. The Public Representative's SAS program, log and output are included as Attachment 1. The program shows that 11,119 or approximately 7.9 percent of the 140,008 routes from fiscal years 2014, 2015, and 2016, were from fiscal year 2015.

[9] Contrast the *Petition, at 3* to the *Response to CHIR1, question 10*. The Form 3999 data provided contained only 127 out of 139,813 or 0.1% from FY 2017.

choice but to use the data provided by the Postal Service in this docket. In that case, the estimated DPA cost pool growth will not show annual variation, but will be averaged over several fiscal years. The Commission should allow this only if the Postal Service is unable to (re)construct annual censuses for fiscal years 2014, 2015, 2016, and 2017. Going forward, the Commission should ensure that all routes which are included in DOIS, receive a route inspection, which is recorded in a Form 3999 database, every fiscal year, beginning in fiscal year 2018.[10]

The Public Representative also wishes to comment on the information provided about Sunday delivery on regular city carrier delivery routes. Table 1 below shows the change in share of street time for regular delivery and parcel deviation delivery between fiscal years 2014 and 2016. The Public Representative examined the Sunday delivery routes excluded by the Postal Service using Public Data and by modifying the SAS Program: USPS.RM2017.8.1.Prop.Four.Cost.Pools.Form3999.sas.

Table 1
Sunday Cost Pool Changes Over Time

Year	Regular Delivery Share	DPA Share	Adjustment Factor
2014	71.95%	4.78%	1.155
2015	71.23%	5.40%	1.151
2016	71.40%	5.40%	1.147
2017	68.82%	5.69%	1.166

Source: Attachment 2, PR Prop4 Route Analysis.mht

Clearly parcel delivery is accounting for an increasing share of regular delivery time on city carrier routes on Sundays. The Commission should keep this in mind as it proceeds in Docket No. PI2017-1.

V. CONCLUSION

The Public Representative concludes that the proposed change in method in Proposal 4 is less than ideal on a going-forward basis, but may be necessary if the

[10] The Postal Service says it "intends to conduct street evaluations on each route at least once a year," but goes on to cite cost concerns. *See Response to CHIR 1, 3c*. The PR is also concerned that the Postal Service may perform a route inspection, but may not prepare the data collected in a Form 3999 database.

Postal Service is unable to reconstruct Form 3999 delivery data for the vast majority of DOIS routes for each fiscal year, beginning in 2014. The Commission should weigh the feasibility of this modification to its potential benefits. The Public Representative stresses the Commission should make clear to the Postal Service that it shall perform at least one route inspection for every DOIS city carrier route each year, and construct a Form 3999 database to contain these data. Doing so will allow city carrier cost pool proportions to be updated for subsequent Annual Compliance Reviews. The Commission should also remain open to either incorporating Sunday delivery into its city carrier street time model, or perhaps separating all parcel deliveries into some portion of special purpose routes when a model for special purpose route carriers is developed to account for the growing importance of package delivery by the Postal Service.

Respectfully submitted:

/s/

Lawrence Fenster (Public Representative
Telephone: (202) 789-6862
e-mail: lawrence.fenster@prc.gov

ATTACHMENT 1

SAS ROUTE PROGRAM

```
*USPS-RM2017-8/1 - Proposal Four USPS & PR Versions;
*This Program follows the methods USPS-RM2015-7/1 - Proposal Thirteen;
libname routes 'Z:\RM2017-8 Prop 4\PR\SAS\'; run;

PROC IMPORT OUT= WORK.FORM_3999_DATA
                        DATAFILE = "Z:\RM2017-8 Prop 4\PR\SAS\Public_Prop4_3999.Data.xlsx"
        DBMS=XLSX REPLACE;
        SHEET="FORM_3999_DATA";
        GETNAMES=YES;
RUN;
*READ IN DATA FILTER OUT SUNDAYS;
data routes.filtered (keep = cyear fy);
set form_3999_data;

if SECTOR_SEGMENT_HOURS                 < 0 then delete;
if PARCEL_HOURS                         < 0 then delete;
if ACCOUNTABLE_HOURS                    < 0 then delete;
if RELAY_HOURS                                  < 0 then delete;
If TRAVEL_TO_HOURS                              < 0 then delete;
if TRAVEL_FROM_HOURS                    < 0 then delete;;
if TRAVEL_WITHIN_HOURS                  < 0 then delete;;
if BLUE_BOX_COLLECTION_HOURS   < 0 then delete;
if GROSS_STREET_HOURS                   < 0 then delete;
if GROSS_STREET_HOURS                   > 12 then delete;
cyear                                           = year(DATE_LAST_3999);
if (DATE_LAST_3999 gt "30SEP2014"D and DATE_LAST_3999 LT "01OCT2015"D) then FY = 2015;
if (DATE_LAST_3999 gt "30SEP2015"D and DATE_LAST_3999 LT "01OCT2016"D) then FY = 2016;
if (DATE_LAST_3999 gt "30SEP2016"D and DATE_LAST_3999 LT "01OCT2017"D) then FY = 2017;
run;
data fy (keep = fy);
set routes.filtered;
run;
proc sort data = fy;by fy;
proc freq data = fy;
tables fy;
run;
data cy (keep = cyear);
set routes.filtered;
run;
proc sort data = cy; by cyear; run;
proc freq data = cy;
tables cyear;
run;
QUIT;
```

SAS LOG

```
NOTE: SAS initialization used:
      real time          3.20 seconds
      cpu time           1.28 seconds

1    *USPS-RM2017-8/1 - Proposal Four USPS & PR Versions;
2    *This Program follows the methods USPS-RM2015-7/1 - Proposal Thirteen;
3
4    libname routes 'Z:\RM2017-8 Prop 4\PR\SAS\';
NOTE: Libref ROUTES was successfully assigned as follows:
      Engine:        V9
      Physical Name: Z:\RM2017-8 Prop 4\PR\SAS
4  !                                  run;
5
6    PROC IMPORT OUT= WORK.FORM_3999_DATA
7                DATAFILE = "Z:\RM2017-8 Prop 4\PR\SAS\Public_Prop4_3999.Data.xlsx"
8                DBMS=XLSX REPLACE;
9                SHEET="FORM_3999_DATA";
10                GETNAMES=YES;
11   RUN;

NOTE: The import data set has 142776 observations and 33 variables.
NOTE: WORK.FORM_3999_DATA data set was successfully created.
NOTE: PROCEDURE IMPORT used (Total process time):
      real time          1:14.34
      cpu time           1:07.21

14   *READ IN DATA FILTER OUT SUNDAYS;
15
16   data routes.filtered (keep = cyear fy);
17   set form_3999_data;
18
19   if SECTOR_SEGMENT_HOURS        < 0 then delete;
20   if PARCEL_HOURS                < 0 then delete;
21   if ACCOUNTABLE_HOURS           < 0 then delete;
22   if RELAY_HOURS                 < 0 then delete;
23   If TRAVEL_TO_HOURS             < 0 then delete;
24   if TRAVEL_FROM_HOURS           < 0 then delete;;
25   if TRAVEL_WITHIN_HOURS         < 0 then delete;;
26   if BLUE_BOX_COLLECTION_HOURS   < 0 then delete;
27   if GROSS_STREET_HOURS          < 0 then delete;
28   if GROSS_STREET_HOURS          > 12 then delete;
29   cyear                          = year(DATE_LAST_3999);
30
31   if (DATE_LAST_3999 gt "30SEP2014"D and DATE_LAST_3999 LT "01OCT2015"D) then FY =
2015;
32   if (DATE_LAST_3999 gt "30SEP2015"D and DATE_LAST_3999 LT "01OCT2016"D) then FY =
2016;
33   if (DATE_LAST_3999 gt "30SEP2016"D and DATE_LAST_3999 LT "01OCT2017"D) then FY =
2017;
34   run;

NOTE: There were 142776 observations read from the data set WORK.FORM_3999_DATA.
NOTE: The data set ROUTES.FILTERED has 141911 observations and 2 variables.
```

NOTE: DATA statement used (Total process time):
real time 0.18 seconds
cpu time 0.09 seconds

SAS OUTPUT

Fiscal Years Used In USPS Analysis For Prop 4

The SAS System

The FREQ Procedure

FY	Frequency	Percent	Cumulative Frequency	Cumulative Percent
2015	11119	7.94	11119	7.94
2016	128762	91.97	139881	99.91
2017	127	0.09	140008	100.00
Frequency Missing = 1903				

Source: PR Prop4 Route Analysis.mht

Calendar Year Data in Public Form 3999 Data Provided in Proposal 4

The SAS System

The FREQ Procedure

cyear	Frequency	Percent	Cumulative Frequency	Cumulative Percent
2011	9	0.01	9	0.01
2012	90	0.06	99	0.07
2013	395	0.28	494	0.35
2014	1819	1.28	2313	1.63
2015	27424	19.32	29737	20.95
2016	112174	79.05	141911	100.00

Source: PR Prop4 Route Analysis.mht

ATTACHMENT 2

SAS Regular and Sunday Cost Pool Program

Program

```
*USPS-RM2017-8/1 - Proposal Four USPS & PR Versions;
*This Program follows the methods USPS-RM2015-7/1 - Proposal Thirteen;

PROC IMPORT OUT= WORK.FORM_3999_DATA
                        DATAFILE = "Z:\RM2017-8 Prop 4\USPS\RM2017-
8_1_Public\Form_3999_Excel_File\USPS.RM2017.8.1.Prop.Four.Form3999.Data.xlsx"
        DBMS=XLSX REPLACE;
        SHEET="FORM_3999_DATA";
        GETNAMES=YES;
RUN;


*READ IN DATA FILTER OUT SUNDAYS;

data form_3999_filtered1;
set form_3999_data;

if SECTOR_SEGMENT_HOURS                 < 0 then delete;
if PARCEL_HOURS                         < 0 then delete;
if ACCOUNTABLE_HOURS                    < 0 then delete;;
if RELAY_HOURS                                  < 0 then delete;
If TRAVEL_TO_HOURS                              < 0 then delete;
if TRAVEL_FROM_HOURS                    < 0 then delete;;
if TRAVEL_WITHIN_HOURS                  < 0 then delete;;
if BLUE_BOX_COLLECTION_HOURS   < 0 then delete;
if GROSS_STREET_HOURS                   < 0 then delete;
if GROSS_STREET_HOURS                   > 12 then delete;
route_delivery_hrs                      = SECTOR_SEGMENT_HOURS;
parcel_acct_hrs                   = sum(PARCEL_HOURS,ACCOUNTABLE_HOURS);
travel_to_from_hrs                      =
sum(TRAVEL_TO_HOURS,TRAVEL_FROM_HOURS);
network_travel_hrs                      = TRAVEL_WITHIN_HOURS;
collect_blue_box_hrs                = BLUE_BOX_COLLECTION_HOURS;
year                                            = year(DATE_LAST_3999);
month                                           = month(DATE_LAST_3999);
dow                                                     = weekday(DATE_LAST_3999);
dom                                                     = day(DATE_LAST_3999);

/*MAKE FISCAL YEARS*/

if (DATE_LAST_3999 gt "30SEP2013"D and DATE_LAST_3999 LT "01OCT2014"D) then FY = 2014;
if (DATE_LAST_3999 gt "30SEP2014"D and DATE_LAST_3999 LT "01OCT2015"D) then FY = 2015;
if (DATE_LAST_3999 gt "30SEP2015"D and DATE_LAST_3999 LT "01OCT2016"D) then FY = 2016;
if (DATE_LAST_3999 gt "30SEP2016"D and DATE_LAST_3999 LT "01OCT2017"D) then FY = 2017;
```

```
run;


*************************************************************************************************
*****  The formula in USPS Response to CHIR2 #10, takes the ratio of fy2017 to fy2014          ******
*****  But the other answers exclude FY2017, thus the formula and calculations should too.     ******
*****  USPS code in its cost pool formation sas program uses data from FY2015 AND FY2016
         ******
*****  This does not match the formula in CHIR#1,10, which uses fiscal year 2017 as the end year  ****
*****  Since there are only 127 route evaluations that FY2017, we don't want*****  to go past FY2016.

                                    ****
*************************************************************************************************;

data regular sunday; /*separates sundays from other days*/
set form_3999_filtered1;
if dow = 1 then output sunday;
if dow ne 1 then output regular;
run;


/*exports sunday data to excel*/
PROC EXPORT DATA= sunday
          OUTFILE= "Z:\RM2017-8 Prop 4\PR\SAS\FYSunday.xlsx"
          DBMS=EXCEL REPLACE;
     SHEET="sunday";
RUN;

/*exports non-sunday data to excel*/

PROC EXPORT DATA= regular
          OUTFILE= "Z:\RM2017-8 Prop 4\PR\SAS\FYRegdays.xlsx"
          DBMS=EXCEL REPLACE;
     SHEET="reg";
RUN;

*Simplify Variable names *;
*Make calculations for NonSundays;

proc sort data = regular; by FY;
proc sort data = sunday; by FY;


proc freq data = regular;
tables FY date_last_3999;
title 'Regular Routes By FY2004 TO FY 2007';
run;

proc freq data = sunday;
tables FY date_last_3999;
title 'Sunday Routes By FY2004 TO FY 2007';
run;
```

```
*************************************************************************
***              FOR REGULAR ROUTES                                   ****
***  Time per route per activity (Form 3999) for FY 2014, 2015, 2016,2017    ***
*************************************************************************;

data regular_rttime;
set regular;
calcsh   = sum(route_delivery_hrs,parcel_acct_hrs,RELAY_HOURS,network_travel_hrs,
                                    travel_to_from_hrs,collect_blue_box_hrs);
sh                                                          = calcsh;
gsh                                                         = GROSS_STREET_HOURS;
delh                                                = route_delivery_hrs;
padelh                                              = parcel_acct_hrs;
relayh                                              = RELAY_HOURS;
ttfh                                                = travel_to_from_hrs;
ntth                                                = network_travel_hrs;
cbbh                                                = collect_blue_box_hrs;
if sh > gsh then delete;

*CALCULATE street time per activity for regular rts by fy;


*************************************************************************
***  calculate Regular Delivery cost pool times (Form 3999) for FY 2014, 2015, 2016,2017   ***
*************************************************************************;

data regular_analysis;
set regular;
calcsh   = sum(route_delivery_hrs,parcel_acct_hrs,RELAY_HOURS,network_travel_hrs,
                                    travel_to_from_hrs,collect_blue_box_hrs);
sh                                                          = calcsh;
gsh                                                         = GROSS_STREET_HOURS;
delh                                                = route_delivery_hrs;
padelh                                              = parcel_acct_hrs;
relayh                                              = RELAY_HOURS;
ttfh                                                = travel_to_from_hrs;
ntth                                                = network_travel_hrs;
cbbh                                                = collect_blue_box_hrs;
if sh > gsh then delete;
run;

*CALCULATE COST POOL DATA (Direct Street Time) For Non Sundays by FY;

proc means noprint data=regular_analysis;
class FY;
var gsh sh delh padelh relayh ttfh ntth cbbh;
output out=mean_regular mean = mgsh msh mdelh mpadelh mrelayh mttfh mntth mcbbh;
run;

*Cost Pool Proportions (Direct + Indirect Street Time) Using Form 3999, FY2014 to fy2017 for Regular
Routes;

data reg_stratios;
set mean_regular;
```

```
streetdel_prop = msh/msh;
directdel_prop = mdelh/msh;
pa_prop = mpadelh/msh;
relay_prop = mrelayh/msh;
ttfm_prop = mttfh/msh;
ntt_prop = mntth/msh;
cbb_prop = mcbbh/msh;
dda_prop = msh/mgsh;
adj      = 1/dda_prop;

format
adj 12.10
streetdel_prop 12.10
directdel_prop 12.10
pa_prop 12.10
relay_prop 12.10
ttfm_prop   12.10
ntt_prop   12.10
cbb_prop   12.10;

proc print; by fy;

TITLE1 'REGULAR ROUTES';
Title2 'PR DIRECT TIME Cost Pool Proportions BY FY';
run;

/* Regular Delivery: Calculate Direct + Indirect (Gross) Street Time Pools */

data reg_gratios; set mean_regular;
g_regdel_prop=mdelh/mgsh;
g_padel_prop=mpadelh/mgsh;
g_relay_prop=mrelayh/mgsh;
g_ttf_prop=mttfh/mgsh;
g_ntt_prop=mntth/mgsh;
g_cbb_prop=mcbbh/mgsh;

format
g_regdel_prop 12.10
g_padel_prop  12.10
g_relay_prop  12.10
g_ttf_prop    12.10
g_ntt_prop    12.10
g_cbb_prop    12.10
;

proc print; by fy;
var  g_regdel_prop g_padel_prop g_relay_prop g_ttf_prop g_ntt_prop  g_cbb_prop;
Title "PR Verion of USPS-RM2017-8/1, Prop Four";
Title2 "Regular Delivery Direct + Indirect Street Time Pools (Gross Streeet Time)by FY";
run;

* Combine Direct and Gross to Get Adjustment Factor;
data final_cost_pool_prop;
merge reg_gratios reg_stratios;
```

```
run;

proc print data = final_cost_pool_prop; by fy;
var g_regdel_prop g_padel_prop adj g_cbb_prop g_ttf_prop g_relay_prop g_ntt_prop
          adj streetdel_prop directdel_prop pa_prop relay_prop ttfm_prop ntt_prop  cbb_prop ;
TITLE "Regular Delivery: Direct and Gross Pools";
run;


/*CALCULATE COST POOL time by FY PR VERSION;*/
*Direct Street Time;

Data sunday_analysis;
set sunday;
calcsh   = sum(route_delivery_hrs,parcel_acct_hrs,RELAY_HOURS,network_travel_hrs,
                    travel_to_from_hrs,collect_blue_box_hrs);
sh                                                          = calcsh;
gsh                                                         = GROSS_STREET_HOURS;
delh                                                = route_delivery_hrs;
padelh                                              = parcel_acct_hrs;
relayh                                              = RELAY_HOURS;
ttfh                                                = travel_to_from_hrs;
ntth                                                = network_travel_hrs;
cbbh                                                = collect_blue_box_hrs;
if sh > gsh then delete;

proc means noprint data=regular_analysis;
class fy;
var gsh sh delh padelh relayh ttfh ntth cbbh;
output out=mean_sunday mean = mgsh msh mdelh mpadelh mrelayh mttfh mntth mcbbh;
run;


*Sunday Direct Street Cost Pool Proportions Using Form 3999, FY2014 to fy2017 for Regular Routes;

data sunday_stratios;
set mean_sunday;
streetdel_prop = msh/msh;
directdel_prop = mdelh/msh;
pa_prop = mpadelh/msh;
relay_prop = mrelayh/msh;
ttfm_prop = mttfh/msh;
ntt_prop = mntth/msh;
cbb_prop = mcbbh/msh;
dda_prop = msh/mgsh;
adj      = 1/dda_prop;

format
adj 12.10
streetdel_prop 12.10
directdel_prop 12.10
pa_prop 12.10
relay_prop 12.10
ttfm_prop   12.10
```

```
ntt_prop   12.10
cbb_prop   12.10;

proc print; by fy;

TITLE1 'SUNDAY ROUTES';
Title2 'DIRECT TIME Cost Pool Proportions W ADJUSTMENT FACTOR';
run;


*GROSS COST POOL SHARES FOR SUNDAYS;

data sunday_gratios; set mean_sunday;
g_regdel_prop=mdelh/mgsh;
g_padel_prop=mpadelh/mgsh;
g_relay_prop=mrelayh/mgsh;
g_ttf_prop=mttfh/mgsh;
g_ntt_prop=mntth/mgsh;
g_cbb_prop=mcbbh/mgsh;

format
g_regdel_prop 12.10
g_padel_prop  12.10
g_relay_prop  12.10
g_ttf_prop    12.10
g_ntt_prop    12.10
g_cbb_prop    12.10
;

proc print; by fy;
var  g_regdel_prop g_padel_prop g_relay_prop g_ttf_prop g_ntt_prop  g_cbb_prop;
Title "PR Verion of USPS-RM2017-8/1, Prop Four";
Title2 "Sunday Gross Street Time Cost Pools";
run;

data sunday_cost_pool_prop;
merge sunday_gratios sunday_stratios;
run;

proc print data = sunday_cost_pool_prop; by fy;
TITLE "Direct and Gross Cost Pool Shares by FY";
var g_regdel_prop g_padel_prop adj cbb_prop g_ttf_prop g_relay_prop g_ntt_prop
          adj  streetdel_prop directdel_prop pa_prop relay_prop ttfm_prop ntt_prop  cbb_prop ;
Title "PR_RM2017-8, Prop 4 PR Version";
Title2 "Sundays Direct Time By Fiscal Year";
run;
```

SAS LOG

```
299  *USPS-RM2017-8/1 - Proposal Four USPS & PR Versions;
300  *This Program follows the methods USPS-RM2015-7/1 - Proposal Thirteen;
301
302  PROC IMPORT OUT= WORK.FORM_3999_DATA
303              DATAFILE = "Z:\RM2017-8 Prop
303! 4\USPS\RM2017-8_1_Public\Form_3999_Excel_File\USPS.RM2017.8.1.Prop.Four.Form3999.Data.xlsx"
304              DBMS=XLSX REPLACE;
305              SHEET="FORM_3999_DATA";
306              GETNAMES=YES;
307  RUN;

NOTE: The import data set has 142776 observations and 33 variables.
NOTE: WORK.FORM_3999_DATA data set was successfully created.
NOTE: PROCEDURE IMPORT used (Total process time):
      real time           1:00.86
      cpu time            58.60 seconds


308
309
310  *READ IN DATA FILTER OUT SUNDAYS;
311
312  data form_3999_filtered1;
313  set form_3999_data;
314
315  if SECTOR_SEGMENT_HOURS         < 0 then delete;
316  if PARCEL_HOURS                 < 0 then delete;
317  if ACCOUNTABLE_HOURS            < 0 then delete;;
318  if RELAY_HOURS                  < 0 then delete;
319  If TRAVEL_TO_HOURS              < 0 then delete;
320  if TRAVEL_FROM_HOURS            < 0 then delete;;
321  if TRAVEL_WITHIN_HOURS          < 0 then delete;;
322  if BLUE_BOX_COLLECTION_HOURS    < 0 then delete;
323  if GROSS_STREET_HOURS           < 0 then delete;
324  if GROSS_STREET_HOURS           > 12 then delete;
325  route_delivery_hrs              = SECTOR_SEGMENT_HOURS;
326  parcel_acct_hrs                 = sum(PARCEL_HOURS,ACCOUNTABLE_HOURS);
327  travel_to_from_hrs              = sum(TRAVEL_TO_HOURS,TRAVEL_FROM_HOURS);
328  network_travel_hrs              = TRAVEL_WITHIN_HOURS;
329  collect_blue_box_hrs            = BLUE_BOX_COLLECTION_HOURS;
330  year                            = year(DATE_LAST_3999);
331  month                           = month(DATE_LAST_3999);
332  dow                             = weekday(DATE_LAST_3999);
333  dom                             = day(DATE_LAST_3999);
334
335  /*MAKE FISCAL YEARS*/
336
337  if (DATE_LAST_3999 gt "30SEP2013"D and DATE_LAST_3999 LT "01OCT2014"D) then FY = 2014;
338  if (DATE_LAST_3999 gt "30SEP2014"D and DATE_LAST_3999 LT "01OCT2015"D) then FY = 2015;
339  if (DATE_LAST_3999 gt "30SEP2015"D and DATE_LAST_3999 LT "01OCT2016"D) then FY = 2016;
340  if (DATE_LAST_3999 gt "30SEP2016"D and DATE_LAST_3999 LT "01OCT2017"D) then FY = 2017;
341
342  run;

NOTE: There were 142776 observations read from the data set WORK.FORM_3999_DATA.
NOTE: The data set WORK.FORM_3999_FILTERED1 has 141911 observations and 43 variables.
NOTE: DATA statement used (Total process time):
      real time           0.21 seconds
      cpu time            0.21 seconds


343
344
```

```
345  ********************************************************************************************
345! *********
346  *****  The formula in USPS Response to CHIR2 #10, takes the ratio of fy2017 to fy2014
346!     ******
347  *****  But the other answers exclude FY2017, thus the formula and calculations should too.
347!     ******
348  *****  USPS code in its cost pool formation sas program uses data from FY2015 AND FY2016
348!     ******
349  *****  This does not match the formula in CHIR#1,10, which uses fiscal year 2017 as the end
349! year  ****
350  *****  Since there are only 127 route evaluations that FY2017, we don't want*****  to go
350! past FY2016.                                                                      ****
351  ********************************************************************************************
351! ********;
352
353  data regular sunday; /*separates sundays from other days*/
354  set form_3999_filtered1;
355  if dow = 1 then output sunday;
356  if dow ne 1 then output regular;
357  run;

NOTE: There were 141911 observations read from the data set WORK.FORM_3999_FILTERED1.
NOTE: The data set WORK.REGULAR has 141709 observations and 43 variables.
NOTE: The data set WORK.SUNDAY has 202 observations and 43 variables.
NOTE: DATA statement used (Total process time):
      real time           0.17 seconds
      cpu time            0.17 seconds


358
359
360  /*exports sunday data to excel*/
361  PROC EXPORT DATA= sunday
362              OUTFILE= "Z:\RM2017-8 Prop 4\PR\SAS\FYSunday.xlsx"
363              DBMS=EXCEL REPLACE;
364       SHEET="sunday";
365  RUN;

NOTE: "sunday" range/sheet was successfully created.
NOTE: PROCEDURE EXPORT used (Total process time):
      real time           0.48 seconds
      cpu time            0.31 seconds


366
367  /*exports non-sunday data to excel*/
368
369  PROC EXPORT DATA= regular
370              OUTFILE= "Z:\RM2017-8 Prop 4\PR\SAS\FYRegdays.xlsx"
371              DBMS=EXCEL REPLACE;
372       SHEET="reg";
373  RUN;

NOTE: "reg" range/sheet was successfully created.
NOTE: PROCEDURE EXPORT used (Total process time):
      real time           57.31 seconds
      cpu time            1:13.15


374
375  *Simplify Variable names *;
376  *Make calculations for NonSundays;
377
378  proc sort data = regular; by FY;

NOTE: There were 141709 observations read from the data set WORK.REGULAR.
```

```
NOTE: The data set WORK.REGULAR has 141709 observations and 43 variables.
NOTE: PROCEDURE SORT used (Total process time):
      real time           0.26 seconds
      cpu time            0.29 seconds


379  proc sort data = sunday; by FY;
380
381

NOTE: There were 202 observations read from the data set WORK.SUNDAY.
NOTE: The data set WORK.SUNDAY has 202 observations and 43 variables.
NOTE: PROCEDURE SORT used (Total process time):
      real time           0.01 seconds
      cpu time            0.01 seconds


382  proc freq data = regular;
383  tables FY date_last_3999;
384  title 'Regular Routes By FY2004 TO FY 2007';
385  run;

NOTE: Writing HTML Body file: sashtml1.htm
NOTE: There were 141709 observations read from the data set WORK.REGULAR.
NOTE: PROCEDURE FREQ used (Total process time):
      real time           1.46 seconds
      cpu time            1.01 seconds


386
387  proc freq data = sunday;
388  tables FY date_last_3999;
389  title 'Sunday Routes By FY2004 TO FY 2007';
390  run;

NOTE: There were 202 observations read from the data set WORK.SUNDAY.
NOTE: PROCEDURE FREQ used (Total process time):
      real time           0.09 seconds
      cpu time            0.06 seconds


391
392
393  ********************************************************************************
394  ***                  FOR REGULAR ROUTES                                      ****
395  ***  Time per route per activity (Form 3999) for FY 2014, 2015, 2016,2017    ***
396  ********************************************************************************;
397
398  data regular_rttime;
399  set regular;
400  calcsh  = sum(route_delivery_hrs,parcel_acct_hrs,RELAY_HOURS,network_travel_hrs,
401                travel_to_from_hrs,collect_blue_box_hrs);
402  sh                              = calcsh;
403  gsh                             = GROSS_STREET_HOURS;
404  delh                            = route_delivery_hrs;
405  padelh                          = parcel_acct_hrs;
406  relayh                          = RELAY_HOURS;
407  ttfh                            = travel_to_from_hrs;
408  ntth                            = network_travel_hrs;
409  cbbh                            = collect_blue_box_hrs;
410  if sh > gsh then delete;
411
412  *CALCULATE street time per activity for regular rts by fy;
413
414
415  ********************************************************************************
```

```
416  ***  calculate Regular Delivery cost pool times (Form 3999) for FY 2014, 2015, 2016,2017
416! ***
417  ********************************************************************************;
418

NOTE: There were 141709 observations read from the data set WORK.REGULAR.
NOTE: The data set WORK.REGULAR_RTTIME has 141567 observations and 52 variables.
NOTE: DATA statement used (Total process time):
      real time           0.17 seconds
      cpu time            0.15 seconds


419  data regular_analysis;
420  set regular;
421  calcsh  = sum(route_delivery_hrs,parcel_acct_hrs,RELAY_HOURS,network_travel_hrs,
422                 travel_to_from_hrs,collect_blue_box_hrs);
423  sh                              = calcsh;
424  gsh                             = GROSS_STREET_HOURS;
425  delh                            = route_delivery_hrs;
426  padelh                          = parcel_acct_hrs;
427  relayh                          = RELAY_HOURS;
428  ttfh                            = travel_to_from_hrs;
429  ntth                            = network_travel_hrs;
430  cbbh                            = collect_blue_box_hrs;
431  if sh > gsh then delete;
432  run;

NOTE: There were 141709 observations read from the data set WORK.REGULAR.
NOTE: The data set WORK.REGULAR_ANALYSIS has 141567 observations and 52 variables.
NOTE: DATA statement used (Total process time):
      real time           0.20 seconds
      cpu time            0.15 seconds


433
434  *CALCULATE COST POOL DATA (Direct Street Time) For Non Sundays by FY;
435
436  proc means noprint data=regular_analysis;
437  class FY;
438  var gsh sh delh padelh relayh ttfh ntth cbbh;
439  output out=mean_regular mean = mgsh msh mdelh mpadelh mrelayh mttfh mntth mcbbh;
440  run;

NOTE: There were 141567 observations read from the data set WORK.REGULAR_ANALYSIS.
NOTE: The data set WORK.MEAN_REGULAR has 5 observations and 11 variables.
NOTE: PROCEDURE MEANS used (Total process time):
      real time           0.31 seconds
      cpu time            0.28 seconds


441
442  *Cost Pool Proportions (Direct + Indirect Street Time) Using Form 3999, FY2014 to fy2017 for
442!  Regular Routes;
443
444  data reg_stratios;
445  set mean_regular;
446  streetdel_prop = msh/msh;
447  directdel_prop = mdelh/msh;
448  pa_prop = mpadelh/msh;
449  relay_prop = mrelayh/msh;
450  ttfm_prop = mttfh/msh;
451  ntt_prop = mntth/msh;
452  cbb_prop = mcbbh/msh;
453  dda_prop = msh/mgsh;
454  adj      = 1/dda_prop;
455
```

```
456  format
457  adj 12.10
458  streetdel_prop 12.10
459  directdel_prop 12.10
460  pa_prop 12.10
461  relay_prop 12.10
462  ttfm_prop   12.10
463  ntt_prop   12.10
464  cbb_prop   12.10;
465

NOTE: There were 5 observations read from the data set WORK.MEAN_REGULAR.
NOTE: The data set WORK.REG_STRATIOS has 5 observations and 20 variables.
NOTE: DATA statement used (Total process time):
      real time           0.03 seconds
      cpu time            0.00 seconds


466  proc print; by fy;
467  TITLE1 'REGULAR ROUTES';
468  Title2 'PR DIRECT TIME Cost Pool Proportions BY FY';
469  run;

NOTE: There were 5 observations read from the data set WORK.REG_STRATIOS.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.12 seconds
      cpu time            0.03 seconds


470
471  /* Regular Delivery: Calculate Direct + Indirect (Gross) Street Time Pools */
472
473  data reg_gratios; set mean_regular;
474  g_regdel_prop=mdelh/mgsh;
475  g_padel_prop=mpadelh/mgsh;
476  g_relay_prop=mrelayh/mgsh;
477  g_ttf_prop=mttfh/mgsh;
478  g_ntt_prop=mntth/mgsh;
479  g_cbb_prop=mcbbh/mgsh;
480
481  format
482  g_regdel_prop 12.10
483  g_padel_prop  12.10
484  g_relay_prop  12.10
485  g_ttf_prop    12.10
486  g_ntt_prop    12.10
487  g_cbb_prop    12.10
488  ;
489

NOTE: There were 5 observations read from the data set WORK.MEAN_REGULAR.
NOTE: The data set WORK.REG_GRATIOS has 5 observations and 17 variables.
NOTE: DATA statement used (Total process time):
      real time           0.03 seconds
      cpu time            0.03 seconds


490  proc print; by fy;
491  var  g_regdel_prop g_padel_prop g_relay_prop g_ttf_prop g_ntt_prop  g_cbb_prop;
492  Title "PR Verion of USPS-RM2017-8/1, Prop Four";
493  Title2 "Regular Delivery Direct + Indirect Street Time Pools (Gross Streeet Time)by FY";
494  run;

NOTE: There were 5 observations read from the data set WORK.REG_GRATIOS.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.04 seconds
```

```
      cpu time            0.01 seconds


495
496  * Combine Direct and Gross to Get Adjustment Factor;
497  data final_cost_pool_prop;
498  merge reg_gratios reg_stratios;
499  run;

NOTE: There were 5 observations read from the data set WORK.REG_GRATIOS.
NOTE: There were 5 observations read from the data set WORK.REG_STRATIOS.
NOTE: The data set WORK.FINAL_COST_POOL_PROP has 5 observations and 26 variables.
NOTE: DATA statement used (Total process time):
      real time           0.04 seconds
      cpu time            0.01 seconds


500
501  proc print data = final_cost_pool_prop; by fy;
502  var g_regdel_prop g_padel_prop adj g_cbb_prop g_ttf_prop g_relay_prop g_ntt_prop
503  adj streetdel_prop directdel_prop pa_prop relay_prop ttfm_prop ntt_prop  cbb_prop
504  TITLE "Regular Delivery: Direct and Gross Pools";
           ----------------------------------------
           22
           200
ERROR: Variable TITLE not found.
ERROR 22-322: Syntax error, expecting one of the following: a name, ;, -, /, :, _ALL_,
              _CHARACTER_, _CHAR_, _NUMERIC_.
ERROR 200-322: The symbol is not recognized and will be ignored.
505  run;

NOTE: The SAS System stopped processing this step because of errors.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.01 seconds
      cpu time            0.00 seconds

506
507
508  /*CALCULATE COST POOL time by FY PR VERSION;*/
509  *Direct Street Time;
510


511  Data sunday_analysis;
512  set sunday;
513  calcsh  = sum(route_delivery_hrs,parcel_acct_hrs,RELAY_HOURS,network_travel_hrs,
514          travel_to_from_hrs,collect_blue_box_hrs);
515  sh                              = calcsh;
516  gsh                             = GROSS_STREET_HOURS;
517  delh                            = route_delivery_hrs;
518  padelh                          = parcel_acct_hrs;
519  relayh                          = RELAY_HOURS;
520  ttfh                            = travel_to_from_hrs;
521  ntth                            = network_travel_hrs;
522  cbbh                            = collect_blue_box_hrs;
523  if sh > gsh then delete;
524

NOTE: There were 202 observations read from the data set WORK.SUNDAY.
NOTE: The data set WORK.SUNDAY_ANALYSIS has 202 observations and 52 variables.
NOTE: DATA statement used (Total process time):
      real time           0.01 seconds
      cpu time            0.01 seconds


525  proc means noprint data=regular_analysis;
```

```
526  class fy;
527  var gsh sh delh padelh relayh ttfh ntth cbbh;
528  output out=mean_sunday mean = mgsh msh mdelh mpadelh mrelayh mttfh mntth mcbbh;
529  run;

NOTE: There were 141567 observations read from the data set WORK.REGULAR_ANALYSIS.
NOTE: The data set WORK.MEAN_SUNDAY has 5 observations and 11 variables.
NOTE: PROCEDURE MEANS used (Total process time):
      real time           0.32 seconds
      cpu time            0.31 seconds


530
531
532  *Sunday Direct Street Cost Pool Proportions Using Form 3999, FY2014 to fy2017 for Regular
532! Routes;
533
534  data sunday_stratios;
535  set mean_sunday;
536  streetdel_prop = msh/msh;
537  directdel_prop = mdelh/msh;
538  pa_prop = mpadelh/msh;
539  relay_prop = mrelayh/msh;
540  ttfm_prop = mttfh/msh;
541  ntt_prop = mntth/msh;
542  cbb_prop = mcbbh/msh;
543  dda_prop = msh/mgsh;
544  adj      = 1/dda_prop;
545
546  format
547  adj 12.10
548  streetdel_prop 12.10
549  directdel_prop 12.10
550  pa_prop 12.10
551  relay_prop 12.10
552  ttfm_prop   12.10
553  ntt_prop   12.10
554  cbb_prop   12.10;
555

NOTE: There were 5 observations read from the data set WORK.MEAN_SUNDAY.
NOTE: The data set WORK.SUNDAY_STRATIOS has 5 observations and 20 variables.
NOTE: DATA statement used (Total process time):
      real time           0.06 seconds
      cpu time            0.01 seconds


556  proc print; by fy;
557
558  TITLE1 'SUNDAY ROUTES';
559  Title2 'DIRECT TIME Cost Pool Proportions W ADJUSTMENT FACTOR';
560  run;

NOTE: There were 5 observations read from the data set WORK.SUNDAY_STRATIOS.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.07 seconds
      cpu time            0.04 seconds


561
562
563  *GROSS COST POOL SHARES FOR SUNDAYS;
564
565  data sunday_gratios; set mean_sunday;
566  g_regdel_prop=mdelh/mgsh;
567  g_padel_prop=mpadelh/mgsh;
```

```
568  g_relay_prop=mrelayh/mgsh;
569  g_ttf_prop=mttfh/mgsh;
570  g_ntt_prop=mntth/mgsh;
571  g_cbb_prop=mcbbh/mgsh;
572
573  format
574  g_regdel_prop 12.10
575  g_padel_prop  12.10
576  g_relay_prop  12.10
577  g_ttf_prop    12.10
578  g_ntt_prop    12.10
579  g_cbb_prop    12.10
580  ;
581

NOTE: There were 5 observations read from the data set WORK.MEAN_SUNDAY.
NOTE: The data set WORK.SUNDAY_GRATIOS has 5 observations and 17 variables.
NOTE: DATA statement used (Total process time):
      real time           0.04 seconds
      cpu time            0.01 seconds


582  proc print; by fy;
583  var  g_regdel_prop g_padel_prop g_relay_prop g_ttf_prop g_ntt_prop  g_cbb_prop;
584  Title "USPS Verion of USPS-RM2017-8/1, Prop Four";
585  Title2 "Gross Street Time Cost Pools";
586  run;

NOTE: There were 5 observations read from the data set WORK.SUNDAY_GRATIOS.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.09 seconds
      cpu time            0.03 seconds


587
588  data sunday_cost_pool_prop;
589  merge sunday_gratios sunday_stratios;
590  run;

NOTE: There were 5 observations read from the data set WORK.SUNDAY_GRATIOS.
NOTE: There were 5 observations read from the data set WORK.SUNDAY_STRATIOS.
NOTE: The data set WORK.SUNDAY_COST_POOL_PROP has 5 observations and 26 variables.
NOTE: DATA statement used (Total process time):
      real time           0.03 seconds
      cpu time            0.03 seconds


591
592  proc print data = usps_cost_pool_prop; by fy;
ERROR: File WORK.USPS_COST_POOL_PROP.DATA does not exist.
593  TITLE "Direct and Gross Cost Pool Shares by FY";
594  var g_regdel_prop g_padel_prop adj cbb_prop g_ttf_prop g_relay_prop g_ntt_prop
595      adj  streetdel_prop directdel_prop pa_prop relay_prop ttfm_prop ntt_prop  cbb_prop ;
596  Title "PR_RM2017-8, Prop 4 PR Version";
597  Title2 "Sundays By Fiscal Year";
598  run;

NOTE: The SAS System stopped processing this step because of errors.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.04 seconds
      cpu time            0.01 seconds


599  data regular_rttime;
600  set regular;
601  calcsh  = sum(route_delivery_hrs,parcel_acct_hrs,RELAY_HOURS,network_travel_hrs,
```

```
602                 travel_to_from_hrs,collect_blue_box_hrs);
603  sh                             = calcsh;
604  gsh                            = GROSS_STREET_HOURS;
605  delh                           = route_delivery_hrs;
606  padelh                         = parcel_acct_hrs;
607  relayh                         = RELAY_HOURS;
608  ttfh                           = travel_to_from_hrs;
609  ntth                           = network_travel_hrs;
610  cbbh                           = collect_blue_box_hrs;
611  if sh > gsh then delete;
612
613  *CALCULATE street time per activity for regular rts by fy;
614
615
616  ********************************************************************************
617  ***  calculate Regular Delivery cost pool times (Form 3999) for FY 2014, 2015, 2016,2017
617! ***
618  ********************************************************************************;
619

NOTE: There were 141709 observations read from the data set WORK.REGULAR.
NOTE: The data set WORK.REGULAR_RTTIME has 141567 observations and 52 variables.
NOTE: DATA statement used (Total process time):
      real time           0.15 seconds
      cpu time            0.15 seconds


620  data regular_analysis;
621  set regular;
622  calcsh  = sum(route_delivery_hrs,parcel_acct_hrs,RELAY_HOURS,network_travel_hrs,
623                 travel_to_from_hrs,collect_blue_box_hrs);
624  sh                             = calcsh;
625  gsh                            = GROSS_STREET_HOURS;
626  delh                           = route_delivery_hrs;
627  padelh                         = parcel_acct_hrs;
628  relayh                         = RELAY_HOURS;
629  ttfh                           = travel_to_from_hrs;
630  ntth                           = network_travel_hrs;
631  cbbh                           = collect_blue_box_hrs;
632  if sh > gsh then delete;
633  run;

NOTE: There were 141709 observations read from the data set WORK.REGULAR.
NOTE: The data set WORK.REGULAR_ANALYSIS has 141567 observations and 52 variables.
NOTE: DATA statement used (Total process time):
      real time           0.15 seconds
      cpu time            0.15 seconds


634
635  *CALCULATE COST POOL DATA (Direct Street Time) For Non Sundays by FY;
636
637  proc means noprint data=regular_analysis;
638  class FY;
639  var gsh sh delh padelh relayh ttfh ntth cbbh;
640  output out=mean_regular mean = mgsh msh mdelh mpadelh mrelayh mttfh mntth mcbbh;
641  run;

NOTE: There were 141567 observations read from the data set WORK.REGULAR_ANALYSIS.
NOTE: The data set WORK.MEAN_REGULAR has 5 observations and 11 variables.
NOTE: PROCEDURE MEANS used (Total process time):
      real time           0.20 seconds
      cpu time            0.24 seconds


642
```

```
643  *Cost Pool Proportions (Direct + Indirect Street Time) Using Form 3999, FY2014 to fy2017 for
643!  Regular Routes;
644
645  data reg_stratios;
646  set mean_regular;
647  streetdel_prop = msh/msh;
648  directdel_prop = mdelh/msh;
649  pa_prop = mpadelh/msh;
650  relay_prop = mrelayh/msh;
651  ttfm_prop = mttfh/msh;
652  ntt_prop = mntth/msh;
653  cbb_prop = mcbbh/msh;
654  dda_prop = msh/mgsh;
655  adj      = 1/dda_prop;
656
657  format
658  adj 12.10
659  streetdel_prop 12.10
660  directdel_prop 12.10
661  pa_prop 12.10
662  relay_prop 12.10
663  ttfm_prop   12.10
664  ntt_prop   12.10
665  cbb_prop   12.10;
666

NOTE: There were 5 observations read from the data set WORK.MEAN_REGULAR.
NOTE: The data set WORK.REG_STRATIOS has 5 observations and 20 variables.
NOTE: DATA statement used (Total process time):
      real time           0.01 seconds
      cpu time            0.00 seconds


667  proc print; by fy;
668
669  TITLE1 'REGULAR ROUTES';
670  Title2 'PR DIRECT TIME Cost Pool Proportions BY FY';
671  run;

NOTE: There were 5 observations read from the data set WORK.REG_STRATIOS.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.04 seconds
      cpu time            0.03 seconds


672
673  /* Regular Delivery: Calculate Direct + Indirect (Gross) Street Time Pools */
674
675  data reg_gratios; set mean_regular;
676  g_regdel_prop=mdelh/mgsh;
677  g_padel_prop=mpadelh/mgsh;
678  g_relay_prop=mrelayh/mgsh;
679  g_ttf_prop=mttfh/mgsh;
680  g_ntt_prop=mntth/mgsh;
681  g_cbb_prop=mcbbh/mgsh;
682
683  format
684  g_regdel_prop 12.10
685  g_padel_prop  12.10
686  g_relay_prop  12.10
687  g_ttf_prop    12.10
688  g_ntt_prop    12.10
689  g_cbb_prop    12.10
690  ;
691
```

```
NOTE: There were 5 observations read from the data set WORK.MEAN_REGULAR.
NOTE: The data set WORK.REG_GRATIOS has 5 observations and 17 variables.
NOTE: DATA statement used (Total process time):
      real time           0.01 seconds
      cpu time            0.01 seconds


692  proc print; by fy;
693  var  g_regdel_prop g_padel_prop g_relay_prop g_ttf_prop g_ntt_prop  g_cbb_prop;
694  Title "PR Verion of USPS-RM2017-8/1, Prop Four";
695  Title2 "Regular Delivery Direct + Indirect Street Time Pools (Gross Streeet Time)by FY";
696  run;

NOTE: There were 5 observations read from the data set WORK.REG_GRATIOS.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.03 seconds
      cpu time            0.01 seconds


697
698  * Combine Direct and Gross to Get Adjustment Factor;
699  data final_cost_pool_prop;
700  merge reg_gratios reg_stratios;
701  run;

NOTE: There were 5 observations read from the data set WORK.REG_GRATIOS.
NOTE: There were 5 observations read from the data set WORK.REG_STRATIOS.
NOTE: The data set WORK.FINAL_COST_POOL_PROP has 5 observations and 26 variables.
NOTE: DATA statement used (Total process time):
      real time           0.01 seconds
      cpu time            0.01 seconds


702
703  proc print data = final_cost_pool_prop; by fy;
704  var g_regdel_prop g_padel_prop adj g_cbb_prop g_ttf_prop g_relay_prop g_ntt_prop
705      adj streetdel_prop directdel_prop pa_prop relay_prop ttfm_prop ntt_prop  cbb_prop ;
706  TITLE "Regular Delivery: Direct and Gross Pools";
707  run;

NOTE: There were 5 observations read from the data set WORK.FINAL_COST_POOL_PROP.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.04 seconds
      cpu time            0.03 seconds


708
709
710  /*CALCULATE COST POOL time by FY PR VERSION;*/
711  *Direct Street Time;
712
713  Data sunday_analysis;
714  set sunday;
715  calcsh  = sum(route_delivery_hrs,parcel_acct_hrs,RELAY_HOURS,network_travel_hrs,
716          travel_to_from_hrs,collect_blue_box_hrs);
717  sh                              = calcsh;
718  gsh                             = GROSS_STREET_HOURS;
719  delh                            = route_delivery_hrs;
720  padelh                          = parcel_acct_hrs;
721  relayh                          = RELAY_HOURS;
722  ttfh                            = travel_to_from_hrs;
723  ntth                            = network_travel_hrs;
724  cbbh                            = collect_blue_box_hrs;
725  if sh > gsh then delete;
726
```

```
NOTE: There were 202 observations read from the data set WORK.SUNDAY.
NOTE: The data set WORK.SUNDAY_ANALYSIS has 202 observations and 52 variables.
NOTE: DATA statement used (Total process time):
      real time           0.01 seconds
      cpu time            0.01 seconds


727  proc means noprint data=regular_analysis;
728  class fy;
729  var gsh sh delh padelh relayh ttfh ntth cbbh;
730  output out=mean_sunday mean = mgsh msh mdelh mpadelh mrelayh mttfh mntth mcbbh;
731  run;

NOTE: There were 141567 observations read from the data set WORK.REGULAR_ANALYSIS.
NOTE: The data set WORK.MEAN_SUNDAY has 5 observations and 11 variables.
NOTE: PROCEDURE MEANS used (Total process time):
      real time           0.23 seconds
      cpu time            0.29 seconds


732
733
734  *Sunday Direct Street Cost Pool Proportions Using Form 3999, FY2014 to fy2017 for Regular
734! Routes;
735
736  data sunday_stratios;
737  set mean_sunday;
738  streetdel_prop = msh/msh;
739  directdel_prop = mdelh/msh;
740  pa_prop = mpadelh/msh;
741  relay_prop = mrelayh/msh;
742  ttfm_prop = mttfh/msh;
743  ntt_prop = mntth/msh;
744  cbb_prop = mcbbh/msh;
745  dda_prop = msh/mgsh;
746  adj      = 1/dda_prop;
747
748  format
749  adj 12.10
750  streetdel_prop 12.10
751  directdel_prop 12.10
752  pa_prop 12.10
753  relay_prop 12.10
754  ttfm_prop   12.10
755  ntt_prop   12.10
756  cbb_prop   12.10;
757

NOTE: There were 5 observations read from the data set WORK.MEAN_SUNDAY.
NOTE: The data set WORK.SUNDAY_STRATIOS has 5 observations and 20 variables.
NOTE: DATA statement used (Total process time):
      real time           0.01 seconds
      cpu time            0.01 seconds


758  proc print; by fy;
759
760  TITLE1 'SUNDAY ROUTES';
761  Title2 'DIRECT TIME Cost Pool Proportions W ADJUSTMENT FACTOR';
762  run;

NOTE: There were 5 observations read from the data set WORK.SUNDAY_STRATIOS.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.06 seconds
      cpu time            0.06 seconds
```

```
763
764
765  *GROSS COST POOL SHARES FOR SUNDAYS;
766
767  data sunday_gratios; set mean_sunday;
768  g_regdel_prop=mdelh/mgsh;
769  g_padel_prop=mpadelh/mgsh;
770  g_relay_prop=mrelayh/mgsh;
771  g_ttf_prop=mttfh/mgsh;
772  g_ntt_prop=mntth/mgsh;
773  g_cbb_prop=mcbbh/mgsh;
774
775  format
776  g_regdel_prop 12.10
777  g_padel_prop  12.10
778  g_relay_prop  12.10
779  g_ttf_prop    12.10
780  g_ntt_prop    12.10
781  g_cbb_prop    12.10
782  ;
783

NOTE: There were 5 observations read from the data set WORK.MEAN_SUNDAY.
NOTE: The data set WORK.SUNDAY_GRATIOS has 5 observations and 17 variables.
NOTE: DATA statement used (Total process time):
      real time           0.01 seconds
      cpu time            0.01 seconds


784  proc print; by fy;
785  var  g_regdel_prop g_padel_prop g_relay_prop g_ttf_prop g_ntt_prop  g_cbb_prop;
786  Title "PR Verion of USPS-RM2017-8/1, Prop Four";
787  Title2 "Sunday Gross Street Time Cost Pools";
788  run;

NOTE: There were 5 observations read from the data set WORK.SUNDAY_GRATIOS.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.04 seconds
      cpu time            0.03 seconds


789
790  data sunday_cost_pool_prop;
791  merge sunday_gratios sunday_stratios;
792  run;

NOTE: There were 5 observations read from the data set WORK.SUNDAY_GRATIOS.
NOTE: There were 5 observations read from the data set WORK.SUNDAY_STRATIOS.
NOTE: The data set WORK.SUNDAY_COST_POOL_PROP has 5 observations and 26 variables.
NOTE: DATA statement used (Total process time):
      real time           0.01 seconds
      cpu time            0.01 seconds


793
794  proc print data = sunday_cost_pool_prop; by fy;
795  TITLE "Direct and Gross Cost Pool Shares by FY";
796  var g_regdel_prop g_padel_prop adj cbb_prop g_ttf_prop g_relay_prop g_ntt_prop
797      adj  streetdel_prop directdel_prop pa_prop relay_prop ttfm_prop ntt_prop  cbb_prop ;
798  Title "PR_RM2017-8, Prop 4 PR Version";
799  Title2 "Sundays By Fiscal Year";
800  run;

NOTE: There were 5 observations read from the data set WORK.SUNDAY_COST_POOL_PROP.
NOTE: PROCEDURE PRINT used (Total process time):
```

```
      real time           0.04 seconds
      cpu time            0.03 seconds


801  *USPS-RM2017-8/1 - Proposal Four USPS & PR Versions;
802  *This Program follows the methods USPS-RM2015-7/1 - Proposal Thirteen;
803
804  PROC IMPORT OUT= WORK.FORM_3999_DATA
805              DATAFILE = "Z:\RM2017-8 Prop
805! 4\USPS\RM2017-8_1_Public\Form_3999_Excel_File\USPS.RM2017.8.1.Prop.Four.Form3999.Data.xlsx"
806              DBMS=XLSX REPLACE;
807              SHEET="FORM_3999_DATA";
808              GETNAMES=YES;
809  RUN;

NOTE: The import data set has 142776 observations and 33 variables.
NOTE: WORK.FORM_3999_DATA data set was successfully created.
NOTE: PROCEDURE IMPORT used (Total process time):
      real time           1:00.17
      cpu time            57.75 seconds


810
811
812  *READ IN DATA FILTER OUT SUNDAYS;
813
814  data form_3999_filtered1;
815  set form_3999_data;
816
817  if SECTOR_SEGMENT_HOURS         < 0 then delete;
818  if PARCEL_HOURS                 < 0 then delete;
819  if ACCOUNTABLE_HOURS            < 0 then delete;;
820  if RELAY_HOURS                  < 0 then delete;
821  If TRAVEL_TO_HOURS              < 0 then delete;
822  if TRAVEL_FROM_HOURS            < 0 then delete;;
823  if TRAVEL_WITHIN_HOURS          < 0 then delete;;
824  if BLUE_BOX_COLLECTION_HOURS    < 0 then delete;
825  if GROSS_STREET_HOURS           < 0 then delete;
826  if GROSS_STREET_HOURS           > 12 then delete;
827  route_delivery_hrs              = SECTOR_SEGMENT_HOURS;
828  parcel_acct_hrs                 = sum(PARCEL_HOURS,ACCOUNTABLE_HOURS);
829  travel_to_from_hrs              = sum(TRAVEL_TO_HOURS,TRAVEL_FROM_HOURS);
830  network_travel_hrs              = TRAVEL_WITHIN_HOURS;
831  collect_blue_box_hrs            = BLUE_BOX_COLLECTION_HOURS;
832  year                            = year(DATE_LAST_3999);
833  month                           = month(DATE_LAST_3999);
834  dow                             = weekday(DATE_LAST_3999);
835  dom                             = day(DATE_LAST_3999);
836
837  /*MAKE FISCAL YEARS*/
838
839  if (DATE_LAST_3999 gt "30SEP2013"D and DATE_LAST_3999 LT "01OCT2014"D) then FY = 2014;
840  if (DATE_LAST_3999 gt "30SEP2014"D and DATE_LAST_3999 LT "01OCT2015"D) then FY = 2015;
841  if (DATE_LAST_3999 gt "30SEP2015"D and DATE_LAST_3999 LT "01OCT2016"D) then FY = 2016;
842  if (DATE_LAST_3999 gt "30SEP2016"D and DATE_LAST_3999 LT "01OCT2017"D) then FY = 2017;
843
844  run;

NOTE: There were 142776 observations read from the data set WORK.FORM_3999_DATA.
NOTE: The data set WORK.FORM_3999_FILTERED1 has 141911 observations and 43 variables.
NOTE: DATA statement used (Total process time):
      real time           0.18 seconds
      cpu time            0.18 seconds


845
```

```
846
847  ********************************************************************************************
847! *********
848  *****  The formula in USPS Response to CHIR2 #10, takes the ratio of fy2017 to fy2014
848!     ******
849  *****  But the other answers exclude FY2017, thus the formula and calculations should too.
849!     ******
850  *****  USPS code in its cost pool formation sas program uses data from FY2015 AND FY2016
850!     ******
851  *****  This does not match the formula in CHIR#1,10, which uses fiscal year 2017 as the end
851! year  ****
852  *****  Since there are only 127 route evaluations that FY2017, we don't want*****  to go
852! past FY2016.                                                                      ****
853  ********************************************************************************************
853! ********;
854
855  data regular sunday; /*separates sundays from other days*/
856  set form_3999_filtered1;
857  if dow = 1 then output sunday;
858  if dow ne 1 then output regular;
859  run;

NOTE: There were 141911 observations read from the data set WORK.FORM_3999_FILTERED1.
NOTE: The data set WORK.REGULAR has 141709 observations and 43 variables.
NOTE: The data set WORK.SUNDAY has 202 observations and 43 variables.
NOTE: DATA statement used (Total process time):
      real time           0.14 seconds
      cpu time            0.14 seconds


860
861
862  /*exports sunday data to excel*/
863  PROC EXPORT DATA= sunday
864              OUTFILE= "Z:\RM2017-8 Prop 4\PR\SAS\FYSunday.xlsx"
865              DBMS=EXCEL REPLACE;
866       SHEET="sunday";
867  RUN;

NOTE: "sunday" range/sheet was successfully created.
NOTE: PROCEDURE EXPORT used (Total process time):
      real time           0.50 seconds
      cpu time            0.17 seconds


868
869  /*exports non-sunday data to excel*/
870
871  PROC EXPORT DATA= regular
872              OUTFILE= "Z:\RM2017-8 Prop 4\PR\SAS\FYRegdays.xlsx"
873              DBMS=EXCEL REPLACE;
874       SHEET="reg";
875  RUN;

NOTE: "reg" range/sheet was successfully created.
NOTE: PROCEDURE EXPORT used (Total process time):
      real time           56.72 seconds
      cpu time            1:11.51


876
877  *Simplify Variable names *;
878  *Make calculations for NonSundays;
879
880  proc sort data = regular; by FY;
```

```
NOTE: There were 141709 observations read from the data set WORK.REGULAR.
NOTE: The data set WORK.REGULAR has 141709 observations and 43 variables.
NOTE: PROCEDURE SORT used (Total process time):
      real time           0.25 seconds
      cpu time            0.31 seconds


881  proc sort data = sunday; by FY;
882
883

NOTE: There were 202 observations read from the data set WORK.SUNDAY.
NOTE: The data set WORK.SUNDAY has 202 observations and 43 variables.
NOTE: PROCEDURE SORT used (Total process time):
      real time           0.01 seconds
      cpu time            0.01 seconds


884  proc freq data = regular;
885  tables FY date_last_3999;
886  title 'Regular Routes By FY2004 TO FY 2007';
887  run;

NOTE: Writing HTML Body file: sashtml2.htm
NOTE: There were 141709 observations read from the data set WORK.REGULAR.
NOTE: PROCEDURE FREQ used (Total process time):
      real time           1.53 seconds
      cpu time            1.04 seconds


888
889  proc freq data = sunday;
890  tables FY date_last_3999;
891  title 'Sunday Routes By FY2004 TO FY 2007';
892  run;

NOTE: There were 202 observations read from the data set WORK.SUNDAY.
NOTE: PROCEDURE FREQ used (Total process time):
      real time           0.07 seconds
      cpu time            0.04 seconds


893
894
895  ********************************************************************************
896  ***                 FOR REGULAR ROUTES                                       ****
897  ***  Time per route per activity (Form 3999) for FY 2014, 2015, 2016,2017    ***
898  ********************************************************************************;
899
900  data regular_rttime;
901  set regular;
902  calcsh  = sum(route_delivery_hrs,parcel_acct_hrs,RELAY_HOURS,network_travel_hrs,
903                travel_to_from_hrs,collect_blue_box_hrs);
904  sh                              = calcsh;
905  gsh                             = GROSS_STREET_HOURS;
906  delh                            = route_delivery_hrs;
907  padelh                          = parcel_acct_hrs;
908  relayh                          = RELAY_HOURS;
909  ttfh                            = travel_to_from_hrs;
910  ntth                            = network_travel_hrs;
911  cbbh                            = collect_blue_box_hrs;
912  if sh > gsh then delete;
913
914  *CALCULATE street time per activity for regular rts by fy;
915
916
```

```
917  ************************************************************************
918  ***  calculate Regular Delivery cost pool times (Form 3999) for FY 2014, 2015, 2016,2017
918! ***
919  ************************************************************************;
920

NOTE: There were 141709 observations read from the data set WORK.REGULAR.
NOTE: The data set WORK.REGULAR_RTTIME has 141567 observations and 52 variables.
NOTE: DATA statement used (Total process time):
      real time           0.21 seconds
      cpu time            0.21 seconds


921  data regular_analysis;
922  set regular;
923  calcsh  = sum(route_delivery_hrs,parcel_acct_hrs,RELAY_HOURS,network_travel_hrs,
924                 travel_to_from_hrs,collect_blue_box_hrs);
925  sh                              = calcsh;
926  gsh                             = GROSS_STREET_HOURS;
927  delh                            = route_delivery_hrs;
928  padelh                          = parcel_acct_hrs;
929  relayh                          = RELAY_HOURS;
930  ttfh                            = travel_to_from_hrs;
931  ntth                            = network_travel_hrs;
932  cbbh                            = collect_blue_box_hrs;
933  if sh > gsh then delete;
934  run;

NOTE: There were 141709 observations read from the data set WORK.REGULAR.
NOTE: The data set WORK.REGULAR_ANALYSIS has 141567 observations and 52 variables.
NOTE: DATA statement used (Total process time):
      real time           0.18 seconds
      cpu time            0.18 seconds


935
936  *CALCULATE COST POOL DATA (Direct Street Time) For Non Sundays by FY;
937
938  proc means noprint data=regular_analysis;
939  class FY;
940  var gsh sh delh padelh relayh ttfh ntth cbbh;
941  output out=mean_regular mean = mgsh msh mdelh mpadelh mrelayh mttfh mntth mcbbh;
942  run;

NOTE: There were 141567 observations read from the data set WORK.REGULAR_ANALYSIS.
NOTE: The data set WORK.MEAN_REGULAR has 5 observations and 11 variables.
NOTE: PROCEDURE MEANS used (Total process time):
      real time           0.34 seconds
      cpu time            0.35 seconds


943
944  *Cost Pool Proportions (Direct + Indirect Street Time) Using Form 3999, FY2014 to fy2017 for
944!  Regular Routes;
945
946  data reg_stratios;
947  set mean_regular;
948  streetdel_prop = msh/msh;
949  directdel_prop = mdelh/msh;
950  pa_prop = mpadelh/msh;
951  relay_prop = mrelayh/msh;
952  ttfm_prop = mttfh/msh;
953  ntt_prop = mntth/msh;
954  cbb_prop = mcbbh/msh;
955  dda_prop = msh/mgsh;
956  adj      = 1/dda_prop;
```

```
957
958  format
959  adj 12.10
960  streetdel_prop 12.10
961  directdel_prop 12.10
962  pa_prop 12.10
963  relay_prop 12.10
964  ttfm_prop   12.10
965  ntt_prop   12.10
966  cbb_prop   12.10;
967

NOTE: There were 5 observations read from the data set WORK.MEAN_REGULAR.
NOTE: The data set WORK.REG_STRATIOS has 5 observations and 20 variables.
NOTE: DATA statement used (Total process time):
      real time           0.03 seconds
      cpu time            0.01 seconds


968  proc print; by fy;
969
970  TITLE1 'REGULAR ROUTES';
971  Title2 'PR DIRECT TIME Cost Pool Proportions BY FY';
972  run;

NOTE: There were 5 observations read from the data set WORK.REG_STRATIOS.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.07 seconds
      cpu time            0.04 seconds


973
974  /* Regular Delivery: Calculate Direct + Indirect (Gross) Street Time Pools */
975
976  data reg_gratios; set mean_regular;
977  g_regdel_prop=mdelh/mgsh;
978  g_padel_prop=mpadelh/mgsh;
979  g_relay_prop=mrelayh/mgsh;
980  g_ttf_prop=mttfh/mgsh;
981  g_ntt_prop=mntth/mgsh;
982  g_cbb_prop=mcbbh/mgsh;
983
984  format
985  g_regdel_prop 12.10
986  g_padel_prop  12.10
987  g_relay_prop  12.10
988  g_ttf_prop    12.10
989  g_ntt_prop    12.10
990  g_cbb_prop    12.10
991  ;
992

NOTE: There were 5 observations read from the data set WORK.MEAN_REGULAR.
NOTE: The data set WORK.REG_GRATIOS has 5 observations and 17 variables.
NOTE: DATA statement used (Total process time):
      real time           0.01 seconds
      cpu time            0.00 seconds


993  proc print; by fy;
994  var  g_regdel_prop g_padel_prop g_relay_prop g_ttf_prop g_ntt_prop  g_cbb_prop;
995  Title "PR Verion of USPS-RM2017-8/1, Prop Four";
996  Title2 "Regular Delivery Direct + Indirect Street Time Pools (Gross Streeet Time)by FY";
997  run;

NOTE: There were 5 observations read from the data set WORK.REG_GRATIOS.
```

```
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.04 seconds
      cpu time            0.03 seconds


998
999  * Combine Direct and Gross to Get Adjustment Factor;
1000  data final_cost_pool_prop;
1001  merge reg_gratios reg_stratios;
1002  run;

NOTE: There were 5 observations read from the data set WORK.REG_GRATIOS.
NOTE: There were 5 observations read from the data set WORK.REG_STRATIOS.
NOTE: The data set WORK.FINAL_COST_POOL_PROP has 5 observations and 26 variables.
NOTE: DATA statement used (Total process time):
      real time           0.04 seconds
      cpu time            0.00 seconds


1003
1004  proc print data = final_cost_pool_prop; by fy;
1005  var g_regdel_prop g_padel_prop adj g_cbb_prop g_ttf_prop g_relay_prop g_ntt_prop
1006      adj streetdel_prop directdel_prop pa_prop relay_prop ttfm_prop ntt_prop  cbb_prop ;
1007  TITLE "Regular Delivery: Direct and Gross Pools";
1008  run;

NOTE: There were 5 observations read from the data set WORK.FINAL_COST_POOL_PROP.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.04 seconds
      cpu time            0.03 seconds


1009
1010
1011  /*CALCULATE COST POOL time by FY PR VERSION;*/
1012  *Direct Street Time;
1013
1014  Data sunday_analysis;
1015  set sunday;
1016  calcsh  = sum(route_delivery_hrs,parcel_acct_hrs,RELAY_HOURS,network_travel_hrs,
1017          travel_to_from_hrs,collect_blue_box_hrs);
1018  sh                              = calcsh;
1019  gsh                             = GROSS_STREET_HOURS;
1020  delh                            = route_delivery_hrs;
1021  padelh                          = parcel_acct_hrs;
1022  relayh                          = RELAY_HOURS;
1023  ttfh                            = travel_to_from_hrs;
1024  ntth                            = network_travel_hrs;
1025  cbbh                            = collect_blue_box_hrs;
1026  if sh > gsh then delete;
1027

NOTE: There were 202 observations read from the data set WORK.SUNDAY.
NOTE: The data set WORK.SUNDAY_ANALYSIS has 202 observations and 52 variables.
NOTE: DATA statement used (Total process time):
      real time           0.01 seconds
      cpu time            0.01 seconds


1028  proc means noprint data=regular_analysis;
1029  class fy;
1030  var gsh sh delh padelh relayh ttfh ntth cbbh;
1031  output out=mean_sunday mean = mgsh msh mdelh mpadelh mrelayh mttfh mntth mcbbh;
1032  run;

NOTE: There were 141567 observations read from the data set WORK.REGULAR_ANALYSIS.
```

```
NOTE: The data set WORK.MEAN_SUNDAY has 5 observations and 11 variables.
NOTE: PROCEDURE MEANS used (Total process time):
      real time           0.29 seconds
      cpu time            0.31 seconds


1033
1034
1035  *Sunday Direct Street Cost Pool Proportions Using Form 3999, FY2014 to fy2017 for Regular
1035! Routes;
1036
1037  data sunday_stratios;
1038  set mean_sunday;
1039  streetdel_prop = msh/msh;
1040  directdel_prop = mdelh/msh;
1041  pa_prop = mpadelh/msh;
1042  relay_prop = mrelayh/msh;
1043  ttfm_prop = mttfh/msh;
1044  ntt_prop = mntth/msh;
1045  cbb_prop = mcbbh/msh;
1046  dda_prop = msh/mgsh;
1047  adj      = 1/dda_prop;
1048
1049  format
1050  adj 12.10
1051  streetdel_prop 12.10
1052  directdel_prop 12.10
1053  pa_prop 12.10
1054  relay_prop 12.10
1055  ttfm_prop   12.10
1056  ntt_prop   12.10
1057  cbb_prop   12.10;
1058

NOTE: There were 5 observations read from the data set WORK.MEAN_SUNDAY.
NOTE: The data set WORK.SUNDAY_STRATIOS has 5 observations and 20 variables.
NOTE: DATA statement used (Total process time):
      real time           0.01 seconds
      cpu time            0.01 seconds


1059  proc print; by fy;
1060
1061  TITLE1 'SUNDAY ROUTES';
1062  Title2 'DIRECT TIME Cost Pool Proportions W ADJUSTMENT FACTOR';
1063  run;

NOTE: There were 5 observations read from the data set WORK.SUNDAY_STRATIOS.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.06 seconds
      cpu time            0.03 seconds


1064
1065
1066  *GROSS COST POOL SHARES FOR SUNDAYS;
1067
1068  data sunday_gratios; set mean_sunday;
1069  g_regdel_prop=mdelh/mgsh;
1070  g_padel_prop=mpadelh/mgsh;
1071  g_relay_prop=mrelayh/mgsh;
1072  g_ttf_prop=mttfh/mgsh;
1073  g_ntt_prop=mntth/mgsh;
1074  g_cbb_prop=mcbbh/mgsh;
1075
1076  format
```

```
1077  g_regdel_prop 12.10
1078  g_padel_prop  12.10
1079  g_relay_prop  12.10
1080  g_ttf_prop    12.10
1081  g_ntt_prop    12.10
1082  g_cbb_prop    12.10
1083  ;
1084

NOTE: There were 5 observations read from the data set WORK.MEAN_SUNDAY.
NOTE: The data set WORK.SUNDAY_GRATIOS has 5 observations and 17 variables.
NOTE: DATA statement used (Total process time):
      real time           0.01 seconds
      cpu time            0.01 seconds


1085  proc print; by fy;
1086  var  g_regdel_prop g_padel_prop g_relay_prop g_ttf_prop g_ntt_prop  g_cbb_prop;
1087  Title "PR Verion of USPS-RM2017-8/1, Prop Four";
1088  Title2 "Sunday Gross Street Time Cost Pools";
1089  run;

NOTE: There were 5 observations read from the data set WORK.SUNDAY_GRATIOS.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.07 seconds
      cpu time            0.01 seconds


1090
1091  data sunday_cost_pool_prop;
1092  merge sunday_gratios sunday_stratios;
1093  run;

NOTE: There were 5 observations read from the data set WORK.SUNDAY_GRATIOS.
NOTE: There were 5 observations read from the data set WORK.SUNDAY_STRATIOS.
NOTE: The data set WORK.SUNDAY_COST_POOL_PROP has 5 observations and 26 variables.
NOTE: DATA statement used (Total process time):
      real time           0.01 seconds
      cpu time            0.01 seconds


1094
1095  proc print data = sunday_cost_pool_prop; by fy;
1096  TITLE "Direct and Gross Cost Pool Shares by FY";
1097  var g_regdel_prop g_padel_prop adj cbb_prop g_ttf_prop g_relay_prop g_ntt_prop
1098      adj  streetdel_prop directdel_prop pa_prop relay_prop ttfm_prop ntt_prop  cbb_prop ;
1099  Title "PR_RM2017-8, Prop 4 PR Version";
1100  Title2 "Sundays Direct Time By Fiscal Year";
1101  run;

NOTE: There were 5 observations read from the data set WORK.SUNDAY_COST_POOL_PROP.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.06 seconds
      cpu time            0.03 seconds
```

Before the
POSTAL REGULATORY COMMISSION
WASHINGTON, D.C. 20268-0001

SAS OUTPUT (Only Output to Support Chart 1)

Regular Delivery: Direct and Gross Pools

FY=.

Obs	g_regdel_prop	g_padel_prop	adj	g_cbb_prop	g_ttf_prop	g_relay_prop	g_ntt_prop	adj	streetdel_prop	directdel_prop	pa_prop	relay_prop	ttfm_prop	ntt_prop	cbb_prop
1	0.7138929786	0.0539084970	1.1473965492	0.0023280515	0.0449336928	0.0324158104	0.0240592367	1.1473965492	1.0000000000	0.8191183402	0.0618544235	0.0371937889	0.0515567640	0.0276054851	0.0026711982

FY=2014

Obs	g_regdel_prop	g_padel_prop	adj	g_cbb_prop	g_ttf_prop	g_relay_prop	g_ntt_prop	adj	streetdel_prop	directdel_prop	pa_prop	relay_prop	ttfm_prop	ntt_prop	cbb_prop
2	0.7195283585	0.0478152821	1.1545344153	0.0009243425	0.0456186653	0.0269527129	0.0253106527	1.1545344153	1.0000000000	0.8307202527	0.0552043887	0.0311178347	0.0526683191	0.0292220196	0.0010671852

FY=2015

Obs	g_regdel_prop	g_padel_prop	adj	g_cbb_prop	g_ttf_prop	g_relay_prop	g_ntt_prop	adj	streetdel_prop	directdel_prop	pa_prop	relay_prop	ttfm_prop	ntt_prop	cbb_prop
3	0.7122276475	0.0540153294	1.1507996067	0.0018812175	0.0476210464	0.0309539712	0.0222618080	1.1507996067	1.0000000000	0.8196312966	0.0621608199	0.0356218179	0.0548022814	0.0256188799	0.0021649043

FY=2016

Obs	g_regdel_prop	g_padel_prop	adj	g_cbb_prop	g_ttf_prop	g_relay_prop	g_ntt_prop	adj	streetdel_prop	directdel_prop	pa_prop	relay_prop	ttfm_prop	ntt_prop	cbb_prop
4	0.7139951551	0.0539699191	1.1469961696	0.0023842975	0.0446894185	0.0326054239	0.0241982789	1.1469961696	1.0000000000	0.8189497080	0.0619032905	0.0373982964	0.0512585918	0.0277553332	0.0027347801

FY=2017

Obs	g_regdel_prop	g_padel_prop	adj	g_cbb_prop	g_ttf_prop	g_relay_prop	g_ntt_prop	adj	streetdel_prop	directdel_prop	pa_prop	relay_prop	ttfm_prop	ntt_prop	cbb_prop
5	0.6882397135	0.0568825890	1.1662768460	0.0021643068	0.0456121406	0.0370487937	0.0274818081	1.1662768460	1.0000000000	0.8026780424	0.0663408465	0.0432091503	0.0531963834	0.0320513964	0.0025241809